# Green Building Public Workshop #2

May 11, 2021

Meeting Agenda and meeting materials available at: <a href="https://encinitasca.gov/GreenBuilding">https://encinitasca.gov/GreenBuilding</a>



#### WORKSHOP LOGISTICS



- Meeting is being recorded
- All participants are muted
- To ask a question or offer a comment:
  - use raise hand function in "Reactions"
  - type your question in the Chat

#### **WORKSHOP AGENDA**



#### AGENDA

- 1. Welcome and Overview 5:00 pm City
- 2. Overview of CAP Ordinance 5:15 pm EPIC
- 3. Facilitated Discussion 5:45 pm City and EPIC
- 4. Incentive Program 6:30 pm City
- 5. Wrap Up 6:50 pm

#### WELCOME





Crystal Najera, *CAP Program Administrator*Mark Delin, *Assistant City Manager*Jasmine Krause, *CivicSpark Fellow*Christian Adams, *Environmental Commissioner* 



Scott Anders, *Director*Marc Steele, *Technical Policy Analyst*Joe Kaatz, *Staff Attorney* 

#### BACKGROUND





Climate Action Plan – establishes policies, programs, and projects to reduce greenhouse gas emissions

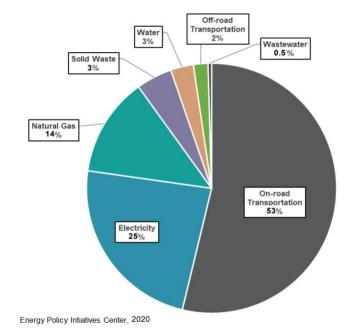
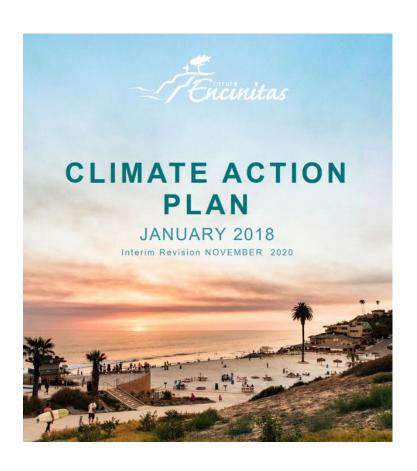


Figure 2-1: Greenhouse Gas Inventory for the City of Encinitas in 2012 by Emission Sector

#### BACKGROUND





#### **CAP Measures Related to Buildings:**

- Energy Efficiency measures
- Renewable Energy measures

Reach Code\* – Local building code that goes beyond state building code

\*Must be cost-effective



### Building-Related CAP Measures

CAP Measure	Building Type	Ordinance Status
BE-1: Residential Energy Efficiency	Retrofit	Drafted
BE-2: Residential Decarbonization	New	Drafted
BE-3: Commercial Energy Efficiency	New and Retrofit	Drafted
BE-4: Commercial Decarbonization	New	Drafted
RE-2: Residential Solar PV Systems	New	Adopted
RE-3: Commercial Solar PV Systems	New and Retrofit	Drafted
CET-4: Residential EV Charging Stations	New	Adopted
CET-5: Commercial EV Charging Stations	New and Retrofit	Adopted

#### COST EFFECTIVENESS

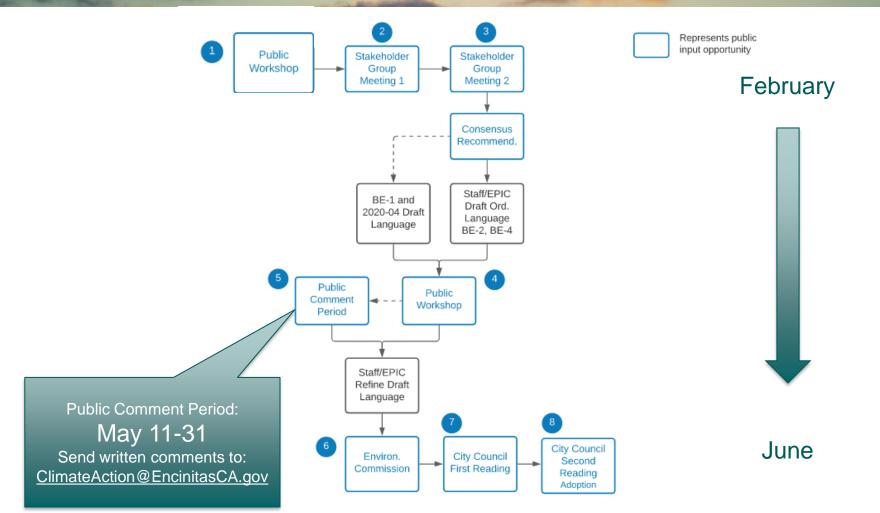


Ordinance Section	Cost-Effectiveness Study*
Residential Energy Efficiency Retrofits	"2019 Cost-Effectiveness Study: Existing Low-rise Residential Building Efficiency Upgrade" (California Energy Codes and Standards)
Non-Residential Energy Efficiency (New and Retrofit) Non-Residential Solar PV (New and Retrofit)	"City of Carlsbad Energy Conservation Ordinance Cost Effectiveness Analysis" (2019)
New Residential Electrification	"2019 Cost-effectiveness Study: Low-Rise Residential New Construction" (California Energy Codes and Standards)
New Non-Residential Electrification	"2019 Nonresidential New Construction Reach Code Cost Effectiveness Study" (California Energy Codes and Standards)

<sup>\*</sup>All studies available on City website: <a href="https://encinitasca.gov/GreenBuilding">https://encinitasca.gov/GreenBuilding</a>

#### PROCESS FOR ORDAINCE DEVELOPMENT





#### STAKEHOLDER COMMITTEE



- 13 representatives from the following sectors:
  - Resident
  - Business Owner
  - Environmental Advocate
  - Developer
  - At large

#### Plus:

- Environmental Commissioner Christian Adams
- Held 2 Stakeholder meetings
  - Discussed proposed requirements and CAP measures
  - Received feedback which influenced final draft language

#### STAKEHOLDER COMMITTEE



#### **Stakeholder Feedback and Changes:**

- 1. Non-residential solar PV
  - Greenhouse exception
  - Allowance for ground mounted solar
  - Façade improvement exception
  - Green Power compliance alternative
- 2. Non-residential Energy Efficiency
  - Omitted performance standard
  - Omitted renewable/green power requirement
  - Omitted application to new construction

- 3. Electrification (New Bldgs ONLY) Electric-only:
  - Water Heaters
  - Heating and Air Conditioning
  - Clothes Drying
  - Indoor Fireplaces

#### **Exceptions:**

- Cooking
- Pools and Spas
- Outdoor Fireplaces
- Central water heating (multi-family)
- Restaurants (limited exclusion)
- ADUs



# GHG Emissions Avoided CAP Estimates vs Draft Ordinance

CAP Measure	Avoided GHG Estimates (MT CO2e)		Notes	
CAP iviedsure	САР	Ordinance	Notes	
BE-1: Adopt a residential energy efficiency ordinance	14	14	No change from assumptions used in CAP calculations.	
BE-2: Require electrification of new residential developments	466-878	466-878	Range range developed for the CAP still applies due to flexibilty in ordinance.	
BE-3: Adopt higher energy efficiency standards for commercial buildings	57	24	Draft ordaince applies to retrofits and alterations only.  Deficit made up by electrification requirements in measure BE-4.	
BE-4: Require electrification of new commercial buildings	97	97 (minimum)	CAP conservative estimate - electrification of water heating for new nonresidential construction. Actual GHG emissions avoided likely higher. Requires a more analysis.	
RE-3: Require commercial buildings to install solar photovoltaic (PV) systems	989	989	No change from assumptions used in CAP calculations.	

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# Local Energy Ordinance Overview

City of Encinitas

Public Workshop on Green Building

May 11, 2021



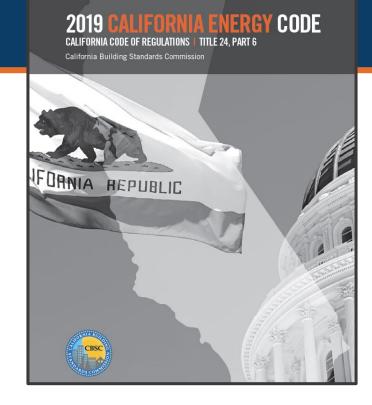
### **Background Information**

**State building standards:** refers to California's Title 24 Building Standards Code.

- Updated every 3 years (2019 standards went into effect Jan. 1, 2020)
- General trend in state standards towards electrification and decarbonization in new buildings

**Local energy ordinance:** requirements that go beyond state energy-related building standards. They must demonstrate that they are:

- At least as stringent as the statewide code, and
- Cost effective.



**Local Ordinance** 

**State Standards** 

**Building Requirements** 

# **Proposed Local Energy Ordinance Requirements**

		Ordinance		
	Building Types Affected	Energy Efficiency	Electrification	Solar Photovolitaics
Residential	Single Family, Low- Rise Multi-Family	Alterations and Additions	New Construction Only	N/A
Non-Residential	Non-Residential, Hotel/Motel, High-Rise Residential	Alterations and Additions	New Construction Only	New, Alterations, Additions

<sup>\*</sup>Note: Solar is mandated by Title 24 for new Low-rise Residential

# Residential Retrofits Energy Efficiency Requirements Section 23.12.080 C.

# **Existing Residential Energy Efficiency Requirements**

#### **Applies to:**

- 1. All **Existing** Residential Alterations and Additions with a permit value of \$50,000 or higher
- Requirements apply to entire dwelling.
- Comply by choosing one of the required options with the options determined by age of the building in most cases.

# Residential Retrofits Energy Efficiency Requirements

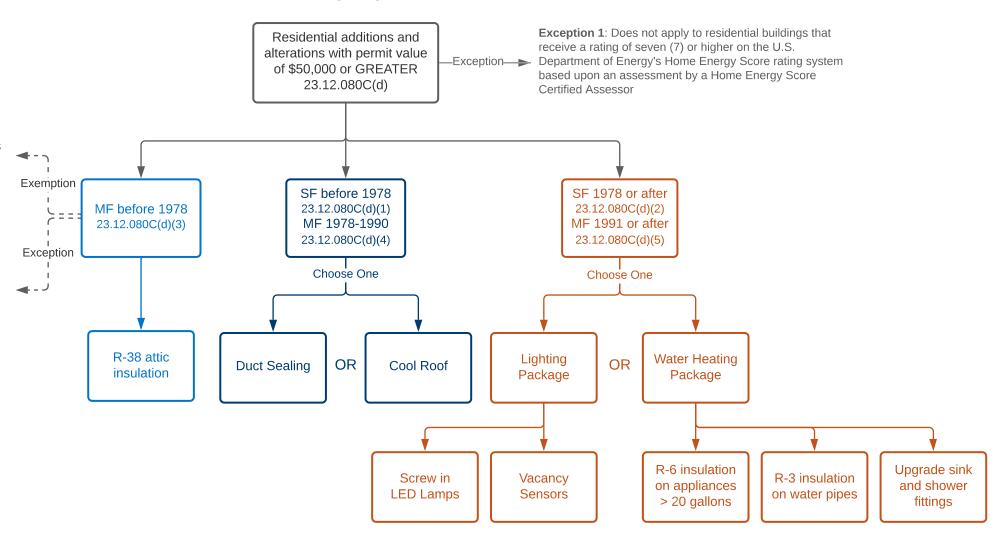
Energy Efficiency	Single Family	Multi-Family
Measure	Vintage	
Attic Insulation	NA	Pre-1978
Duct Sealing	Pre-1978	1978-1990
Cool Roof	Pre-1978	1978-1990
Water Heater Package	1978 or after	1991 or after
Lighting	1978 or after	1991 or after

<sup>\*</sup>Note: These requirements are in addition to existing Title 24 requirements.

# Section 150.2 RESIDENTIAL ENERGY EFFICIENCY

Buildings without vented attic spaces and buildings with existing attic insulation levels greater than R-5 are exempt from this attic insulation energy efficiency measure.

**Exception 2:** The attic insulation minimum requirement shall not apply to residential dwellings that are not currently conditioned for space heating and cooling.



# Non-Residential Energy Efficiency Requirements Section 23.12.110 D.

### Non-Residential Energy Efficiency Requirements

#### **Applies to:**

- 1. <u>Existing</u> Nonresidential, certain Multi-Unit Residential, and Hotel/Motels:
  - a) Additions of 1,000 sq. ft. or more; or
  - b) Alterations with a permit value of at least \$200,000.

# Requirements Apply to the Following

- 1. Energy Efficiency
- 2. Elevators, Escalators, and Other Equipment
- 3. Steel Framing

Note: Renewable Energy and Green Tariff Requirement removed because of SDCP enrollment.



# **Energy Efficiency Requirement**

Comply with 2019 CalGreen Building Standards Tier 1 prerequisites by using at least **ONE** of the following measures for all applicable components of the project:

- Outdoor lighting that is not greater than 90% of the allowed outdoor lighting power and a color temperature no higher than 3000K for hardscape lighting;
- 2. Service water heating for restaurants that comply with Section 140.5 of the California Energy Code;
- 3. Warehouse dock seal doors required where dock doors are adjacent to conditioned spaces; <u>or</u>
- 4. Daylight design power adjustment device(s).

# Requirement for Elevators, Escalators, and Other Equipment

Buildings with <u>more than one</u> elevator or <u>two</u> escalators must provide controls to reduce energy demand:

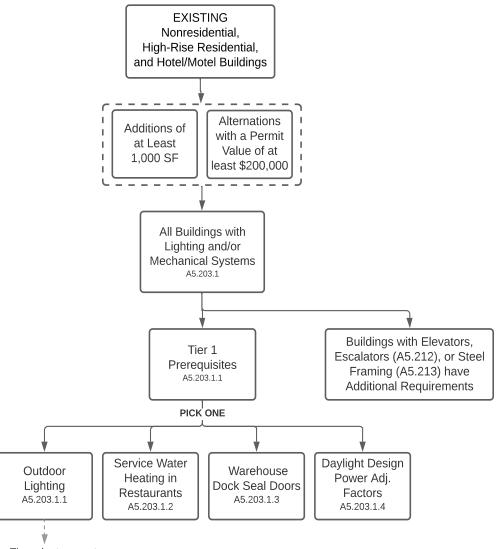
- Use a regenerative drive system while elevator or escalator is in motion
- Turn off lights and fan automatically until elevator is called.
- Controls must meet energy reduction requirements and not interrupt emergency operations.

# **Steel Framing Requirement**

Projects with steel framing must maximize energy efficiency to avoid thermal bridging per 2019 CalGreen Standards, including:

- Exterior rigid insulation;
- Punching large holes in the stud web without affecting the structural integrity of the stud;
- Spacing the studs as far as possible while maintaining the structural integrity of the structure; and
- Detailed design of intersections of wall openings and building intersections of floors, walls and roofs.

#### Nonresidential Building Energy Efficiency 23.12.110 (D)



**Exception:**The color temperature requirement is not applicable to the applications identified in the exceptions to Section 140.7(a) nor to the applications identified as "specific applications" in Section 140.7(b)(2) and Table 140.7.

# Non-Residential Solar PV Requirements Section 23.12.080 B.

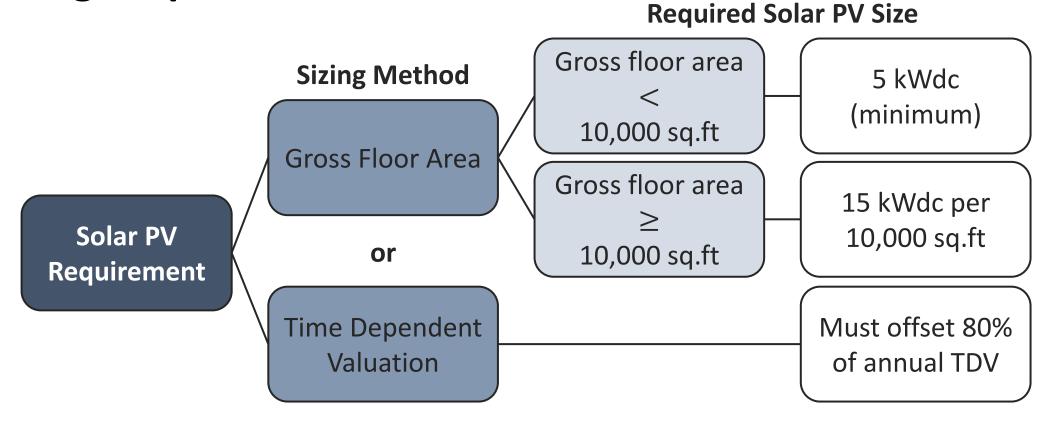
### Non-Residential Solar PV Requirements

#### **Applies to:**

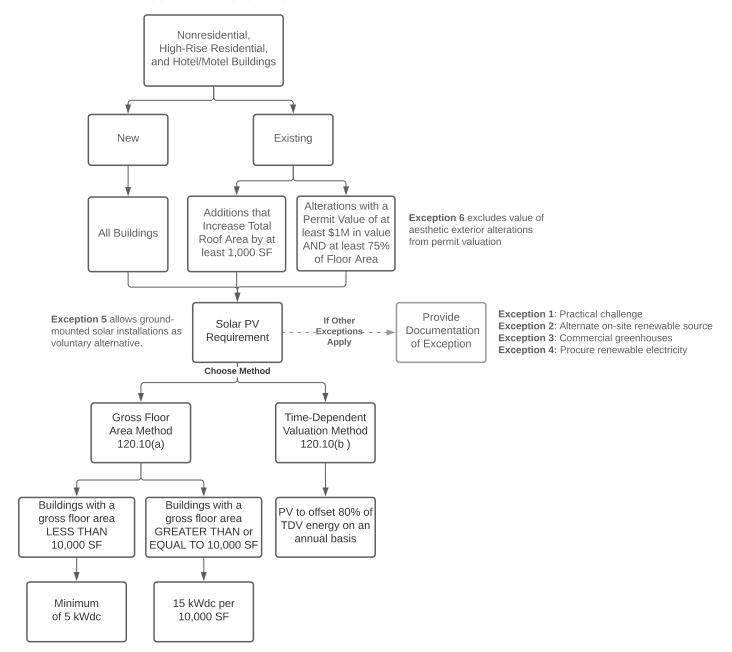
- 1. All <u>New</u> Nonresidential (including Mixed-Use Portion), certain Multi-Unit Residential, and Hotel/Motels
- **2. Existing** Nonresidential, certain Multi-Unit Residential, and Hotel/Motels:
  - **a)** Additions that increase total roof area by at least 1,000 sq. ft.; or
  - **b)** Alterations with a permit value of at least \$1,000,000 that affect at least 75% of gross floor space.

### Non-Residential Solar PV Requirements

#### **Sizing Requirement:**



#### Section 120.10 NONRESIDENTIAL SOLAR PHOTOVOLTAIC



# New Residential and Non-Residential Electrification Requirements Section 23.12.080 D.

# Residential and Non-Residential Electrification Requirements

#### Applies Only to:

- 1. All <u>New</u> Residential and Nonresidential (including Mixed Use Portion), certain Multi-Unit Residential, and Hotel/Motels
- 2. Defines All-Electric and Provides Exceptions by building type and end-use

#### **All-Electric Definition**

ALL ELECTRIC BUILDING: is a building that has no natural gas or propane plumbing installed within the building and there is no gas meter connection, and that uses electricity as the source of energy for its space heating, water heating, cooking appliances, and clothes drying appliances. All Electric Buildings may include solar thermal pool heating.

# **All-Electric Limited Exceptions**

# Exceptions: Allows natural gas end-use with Electric Ready:

- 1. New Residential (All building types): cooking appliances, pool/spa, and outdoor fireplaces (including common areas and fire rings).
- 2. New Residential Multi-family low-rise and high-rise: common, centralized water heating.
- 3. Essential Facilities

# **All-Electric Limited Exceptions**

# Exceptions: Allows natural gas end-use with Electric Ready:

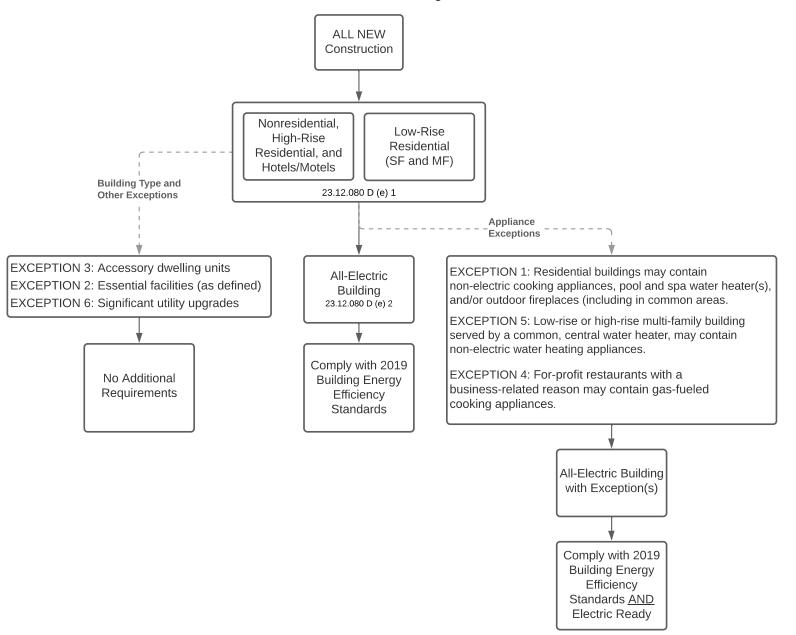
4. ADUs: attached or a detached residential dwelling unit on the same lot as an existing dwelling unit zoned for single-family or multifamily use that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation on the same parcel as the single-family dwelling is situated. An *ADU* can be an efficiency unit, as defined in Section 17958.1 of the CA H&S Code or a manufactured home, as defined in Section 18007 of the CA H&S Code.

# **All-Electric Limited Exceptions**

# Exceptions: Allows natural gas end-use with Electric Ready:

- 5. New For-Profit Restaurants must submit:
  - Business related reason for flame
  - Cannot reasonably be achieved with electric source
  - Employed reasonable method to mitigate GHG impacts from NG fueled appliances
  - Pre-wired for electric appliances where NG is used

#### Section 100.0 Requirements for All-Electric Construction in New Buildings



# Thank you

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